

[ExPASy Home page](#) [Site Map](#) [Search ExPASy](#) [Contact us](#) [ENZYME](#) [Swiss-Prot](#)

Search for

NiceZyme View of ENZYME: EC 3.5.1.28

Official Name

N-acetylmuramoyl-L-alanine amidase.

Reaction catalysed

Hydrolyzes the link between N-acetylmuramoyl residues and L-amino acid residues in certain cell-wall glycopeptides

Comment(s)

Formerly EC 3.4.12.5, EC 3.4.17.7 and EC 3.4.19.10.

Cross-references

PROSITE [PDOC00737](#)

BRENDA [3.5.1.28](#)

PUMA2 [3.5.1.28](#)

PRIAM enzyme-specific profiles [3.5.1.28](#)

Kyoto University
LIGAND chemical database [3.5.1.28](#)

IUBMB Enzyme
Nomenclature [3.5.1.28](#)

IntEnz [3.5.1.28](#)

MEDLINE [Find literature relating to 3.5.1.28](#)

UniProtKB/Swiss-Prot

Q38653 , ALYS_BPA51;	Q03979 , ALYS_BPDP1;	P32762 , ALYS_BPHB3;
Q38135 , ALYS_BPR1T;	P24556 , ALYS_STAAU;	P06653 , ALYS_STRPN;
P36548 , AMIA_ECOLI;	P33772 , AMIA_SALTY;	P57638 , AMIB_BUCAI;
Q8K908 , AMIB_BUCAP;	Q89A33 , AMIB_BUCBP;	P26365 , AMIB_ECOLI;
P44493 , AMIB_HAEIN;	P26366 , AMIB_SALTY;	P63884 , AMIC_ECOL6;
P63883 , AMIC_ECOLI;	P52081 , ATL_STAAU;	O31982 , BLYA_BACSU;
P81717 , CWHY_ACHLY;	P14892 , CWLA_BACSP;	P24808 , CWLA_BACSU;
Q02114 , CWLB_BACSU;	Q06320 , CWLC_BACSU;	P50864 , CWLD_BACSU;
P54450 , CWLH_BACSU;	P36550 , CWLL_BACLI;	P37134 , CWLM_BACLI;
Q99125 , CWLX_BACLI;	P20331 , NAAA_BPT3;	P00806 , NAAA_BPT7;
Q8INK6 , PGPLB_DROME;	Q96PD5 , PGRP2_HUMAN;	Q8VCS0 , PGRP2_MOUSE;
Q866Y3 , PGRP2_PIG;	Q70PY2 , PGSB1_DROME;	Q9VV96 , PGSB2_DROME;
Q70PW6 , PGSB2_DROSI;	Q9V3B7 , PGSC1_DROME;	Q70PU2 , PGSC1_DROSI;
Q9V4X2 , PGSC2_DROME;	Q70PU1 , PGSC2_DROSI;	P39800 , XLYA_BACSU;
O34391 , XLYB_BACSU;	P75820 , YBJR_ECOLI;	

[View entry in original ENZYME format](#)

All UniProtKB/Swiss-Prot entries referenced in this entry, with possibility to download in different formats, align etc.

Entry	EC 3.5.1.28	Enzyme
Name	<p>N-acetylmuramoyl-L-alanine amidase; acetylmuramyl-L-alanine amidase; N-acetylmuramyl-L-alanine amidase; N-acylmuramyl-L-alanine amidase; acetylmuramoyl-alanine amidase; N-acetylmuramic acid L-alanine amidase; acetylmuramyl-alanine amidase; N-acetylmuramylalanine amidase; murein hydrolase; N-acetylmuramoyl-L-alanine amidase type I; N-acetylmuramoyl-L-alanine amidase type II</p>	
Class	<p>Hydrolases Acting on carbon-nitrogen bonds, other than peptide bonds In linear amides</p>	
Synname	peptidoglycan amidohydrolase	
Reaction	<p>Hydrolyses the link between N-acetylmuramoyl residues and L-amino acid residues in certain cell-wall glycopeptides [RN:R04112]</p>	
Structures		
Reference	<p>1 [PMID:5777325] Ghuysen JM, Dierickx L, Coyette J, Leyh-Bouille M, Guinand M, Campbell JN. An improved technique for the preparation of Streptomyces peptidases and N-acetylmuramyl-L-alanine amidase active on bacterial wall peptidoglycans. Biochemistry. 8 (1969) 213-22.</p>	
	<p>2 Herbold, D.R. and Glaser, L. Bacillus subtilis N-acetylmuramic acid</p>	

L-alanine amidase. J. Biol. Chem. 250 (1975) 1676-1682.

3 [PMID:6126517]

Ward JB, Curtis CA, Taylor C, Buxton RS.

Purification and characterization of two phage PBSX-induced lytic enzymes of *Bacillus subtilis* 168: an N-acetylmuramoyl-L-alanine amidase and an N-acetylmuramidase.

J. Gen. Microbiol. 128 (1982) 1171-8.

Other DBs IUBMB Enzyme Nomenclature: 3.5.1.28

ExPASy - ENZYME nomenclature database: 3.5.1.28

ERGO genome analysis and discovery system: 3.5.1.28

BRENDA, the Enzyme Database: 3.5.1.28

CAS: 9013-25-6

LinkDB

All DBs
